

Claims

1. Method of recycling commingled plastics waste containing min. 30 wt.% of polyolefins to
5 tough thermoplastic material characterized in that polymer components of commingled
plastics waste are compatibilized by an admixture of 2 – 15 wt.% of an ethylene –
propylene copolymer (i) or a styrene – butadiene block copolymer (ii) or a combination of
an ethylene – propylene copolymer (i) and a styrene – butadiene copolymer (ii) in any
weight ratio together, with 0.1 – 2.5 wt. % of a secondary aromatic amine (iii) and by
10 subsequent melt processing of the mixture.
2. Method of recycling commingled plastics waste containing min. 30 wt.% of polyolefins to
a tough thermoplastic material according to Claim 1 characterized in that the ethylene –
propylene copolymer (i) is a copolymer with an average molecular weight M_w of 40000 –
15 800000, which contains min. 15 % and max. 60 % of propylene units, the styrene –
butadiene block copolymer (ii) is a copolymer with an average molecular weight M_w of
40000 - 300000, which contains min. 15 % and max. 60 % of polystyrene blocks with an
average molecular weight M_w of polystyrene blocks of min. 6000 and max. 60000, and the
20 secondary aromatic amine (iii) is selected from the group consisting of *N,N'*-diaryl-1,4-
phenylenediamine, *N*-alkyl-*N'*-aryl-1,4-phenylenediamine and of the reaction product of
diphenylamine and acetone.
3. Method of compatibilization of commingled plastics waste containing min. 30 wt.% of
polyolefins to tough thermoplastic material according to Claim 1 characterized in that the
25 compatibilization is performed by processing the mixture melt in a one-screw or multi-
screw extruder or in a batch kneader.